

IN THE CLAIMS

The following claim set replaces all prior versions, and listings, of claims in the application:

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1. (currently amended) An optical transmission WDM-system, comprising:
a transmitting side and a receiving side and an optical fiber link connecting the transmitting and receiving sides, high-priority information being transmitted in the optical fiber link from the transmitting side to the receiving side in a plurality of wavelength bands, the wavelength bands having different transmission characteristics and transmission characteristics varying with time, in particular different polarization mode dispersions and/or polarization mode dispersions varying with time; ~~the WDM-system further comprising switching means~~
a first switch for transmitting the high-priority information in a number of the wavelength bands which is smaller than ~~the~~ a total number of wavelength bands; and
~~control means~~ a controller connected to the ~~switching means~~ first switch for at each instant selecting the wavelength bands used for transmitting the high-priority information to give a sufficient total quality of the transmission of the high-priority information.

2. (currently amended) The optical transmission WDM-system according to claim 1, further comprising a quality determining device connected at the receiving side for

determining the quality of transmission in each of the wavelength bands and for providing a signal representing determined quality values to the ~~control means~~ controller.

3. (currently amended) An optical transmission WDM-system according to claim

1, further comprising:

B¹ a second switch at the receiving side coupled to the controller, for receiving transmitted information,

wherein the ~~switching comprise cross-connect elements,~~ first and second switches correspond to a first cross-connect element connected at the transmitting side and a second cross-connect element connected at the receiving side, respectively, the first cross-connect element having one output terminal for each of the plurality of wavelength bands and the second cross-connect element having one input terminal for each of the plurality of wavelength bands.

4. (original) An optical transmission WDM-system according to claim 3, wherein the cross-connect elements are arranged to switch electrical signals.

5. (original) An optical transmission WDM-system according to claim 3, wherein the cross-connect elements are arranged to switch optical signals.

6. (currently amended) An optical transmission WDM-system according to claim 1, wherein the ~~switching means on the transmitting side comprises~~ first switch includes tuneable electro-optical transmitters.

7. (currently amended) An optical transmission WDM-system according to claim 1 for also transmitting low-priority information on the optical fiber link, wherein the ~~control means are~~ controller is arranged to select the wavelength channels not used for transmitting the high-priority information for transmitting the low-priority information.

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8. (original) An optical transmission WDM-system according to claim 1, further comprising compensators for compensating polarization mode dispersion arranged for each wavelength channel used and connected at one end of the fiber optical link.


9. (currently amended) A method of transmitting in a plurality of wavelength bands high-priority information over an optical fiber link connecting a transmitting side to a receiving side, comprising ~~the steps of:~~

transmitting light signals in the optical fiber link in the wavelength bands, the wavelength bands having different transmission characteristics and transmission characteristics varying with time, in particular different polarization mode dispersions ~~and/or~~ or polarization mode dispersions varying with time, and

~~selecting-selecting~~ at each instant wavelength bands for transmitting the high-priority information, the number of the selected wavelength bands being smaller than the total number of wavelength bands, and using only the selected wavelength bands for transmitting the high-priority information in the optical fiber link, the selecting of the

wavelength bands being made to give a sufficient total quality of the transmission of the high-priority information.

10. (currently amended) A method according to claim 9, further comprising: the additional steps of

 determining, at the receiving side, values representing the quality of transmission in each of the wavelength bands, and

using the determined value in the selecting of wavelength bands.

11. (currently amended) A method according to claim 9, wherein in the ~~step of~~ selecting, at the transmitting side, incoming electrical signals arriving at electrical input lines are switched to the selected wavelength bands and, at the receiving side, the signals received in the selected wavelength bands are switched to electrical output lines carrying electrical output signals.

12. (original) A method according to claim 11, wherein the switching in at least one of the transmitting and receiving sides is made by switching electrical signals.

13. (original) A method according to claim 11, wherein the switching in at least one of the transmitting and receiving sides is made by switching optical signals.

14. (currently amended) A method according to claim 9, wherein ~~the step of~~ selecting, at the transmitting side, the wavelength bands are selected by controlling tuneable optical transmitting elements.

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15. (currently amended) A method according to claim 9, further comprising: ~~the~~
additional step of

compensating for polarization mode dispersion for each wavelength channel used;

~~the compensating being made~~ at one end of the fiber optical link.

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P2